



eTrace – electronic Traceability using EPCIS

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eTrace Vision

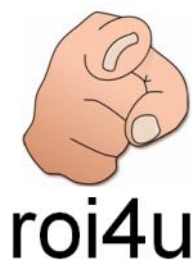
- Exploit [Electronic Product Code Information Services](#) (EPCIS) as basis for a traceability infrastructure.
- Integrate quality and **food safety** information from information sources in the value chain into EPCIS Traceability.



Project consortium



tracetracker®



Observers:

Swedish Board of Fisheries
Lund University
eSporing
Norwegian Meat producers
association

Activities

- Develop and evaluate standardised information services for traceability based on industry standards (EPCglobal).
- Exploitation of standardised identification schemes and automatic data collection and information binding through Radio Frequency IDentification (RFID) and EPCIS

Results

- Established a generic EPCIS-based software ([TIX EPCIS Server](#) made by [TraceTracker](#))

- XML-based communication from datacapture equipment

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<eventTimeZoneOffset>+00:00</eventTimeZoneOffset>

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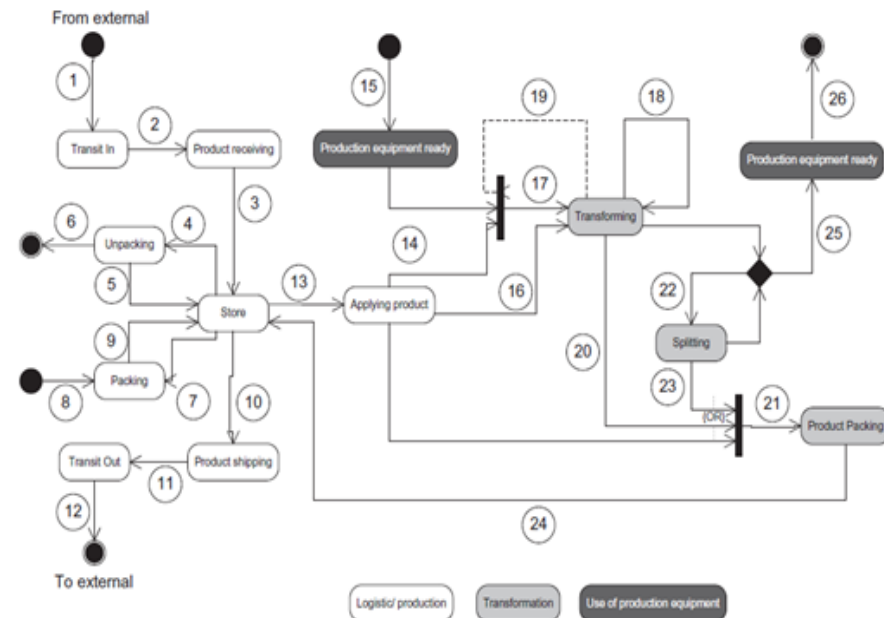
<gttnet:party_id_type>gan-id</gttnet:party_id_type>

</ObjectEvent>

The screenshot displays the TraceTracker web application. The top navigation bar includes 'TT NAVIGATOR' and 'User: gran'. The main content area is titled 'Global Production Batch Graph' and shows a flow diagram with nodes representing different stages of the supply chain. Below the graph, there is a section for 'Paper box pallet - urn:epc:id:grai:5699000023.77077.46'. This section contains several tables: 'Details', 'Properties', 'Deliveries', and 'Transformations'. The 'Details' table lists various attributes like ID, Type, Description, Class, Handle, and Created. The 'Properties' table shows properties such as 'arrival at retailer', 'departure wholesaler', 'quantity', 'shipFromBusinessLocationCode', and 'temperature record'. The 'Deliveries' table lists delivery events with columns for Type, External id, Organization, Sale, and Time. The 'Transformations' table lists transformation events with columns for ID, Event Type, Action, Biz Step, Biz Location, EPC Class, Quantity, Event Time, and Record Time.

Results

- Made an overview of electronic food safety information sources
 - Food business internal databases of bacterial counts.
 - National databases of heavy metal/dioxines/pesticides in food
- Made a model for mapping production processes into the EPCIS (EPCIS answers 4 questions: What, Where, When and Why)
- Used the mapping model during implementing pilot chains (published, Thakur 2011 and Gunnlaugsson 2011)



Pilot implementation, testing and evaluation in pilot food chains

- Three pilot chain where planed
 - Swedish domestic fresh fish supply chain
 - Icelandic fresh fish supply chain for export
 - Norwegian meat sector

- Industrial pilot study of food chain traceability in Swedish domestic fresh fish supply chain
- Traceability systems based on RFID, Electronic Product Code (EPC) and Electronic Product Code Information Service (EPCIS)



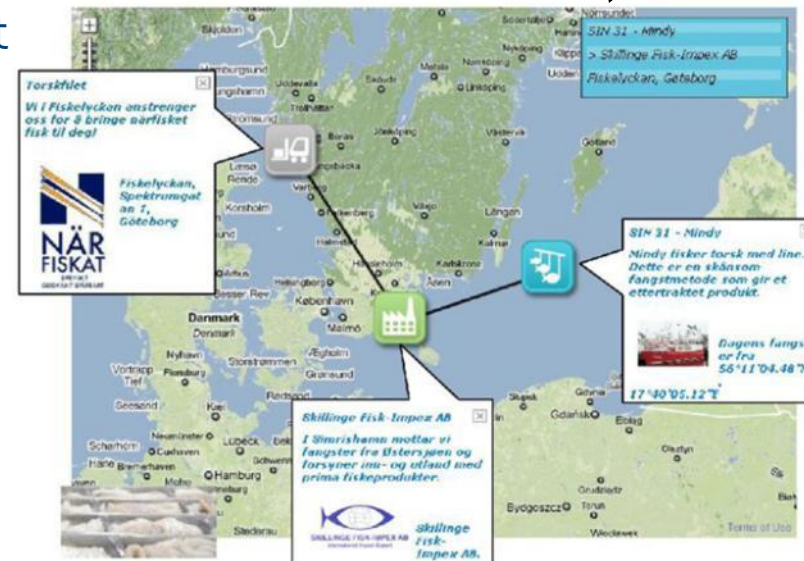
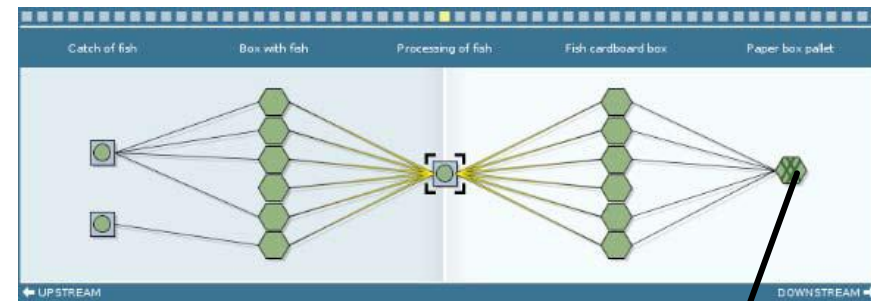
IntraFish June 24. 2010:

"Cod has had such a lousy reputation in Sweden. In the customers' eyes, cod is something illegal and fished far off the coast," (...)

"But now they get to see a printed map which shows that the fish was fished here yesterday, transported like this and here you are." (...)

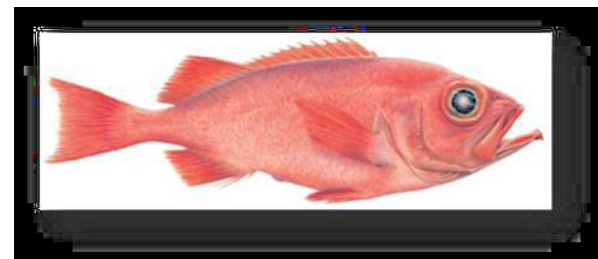
"(...) the experiment hugely boosted its sales."

The project is continued by the Swedish Board of Fisheries



Icelandic pilot

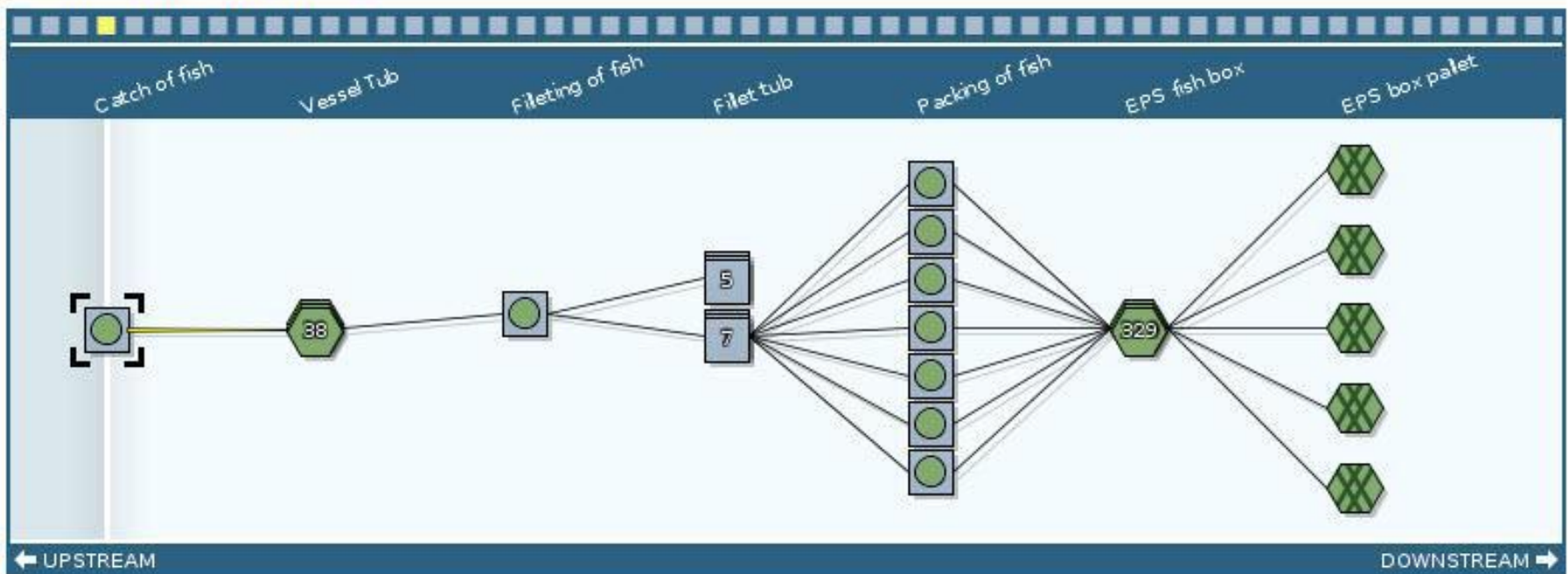
- Pilot chain
 - Internal traceability
 - Fresh fish from trawlers
 - Automatic processing
 - Automatic data capture (RFID)
 - Redfish



Results from Iceland

- The EPCIS standard makes it possible to associate other relevant information with the tagged item or event in the process itself.

Internal graph [Hide]



Results from Iceland



- **HB Grandi saw potential:**
 - this RFID EPCIS traceability system enables finer granularity
 - easier establishment of catch certificates.
 - increased information flow through the value chain
 - gateway for customers to access products information
 - opportunities for better processing control of products and even greater efficiency opens
 - increased automation in the processing of fish
 - Tubs with fixed RFID
 - Automatic reading stations in processing plants may provide a faster and more efficient way of information capture and exchange
 - reduce manpower needed

Norwegian pilot

- Delayed due to the [eSporing-project](#) software development.
- Test are running from May to October 2011
- New project in the Norwegian pelagic fish supply chain will be based on findings from eTrace.

Problems

- Few tests of integration with existing software systems
- No standard for XML between data capture equipment and EPCIS repositories
- Delay in Norwegian pilot due to other projects

Summary of results

- Efficient information capture and exchange by using the EPCIS standard
- Better information visibility in fish supply chain - leads to increased sales
- EPCIS traceability system enables finer granularity than what is usually available in the fishing industry
- EPCIS is applicable for food traceability and thus international trade
- EPCIS can be used as gateway to food safety information
- Dissemination
 - Good contact and dialog with Nordic fish industry
 - Multiple scientific publications and presentations



Thank you for your attention

Questions?

More information on our project website [eTrace](http://www.tracefood.org/index.php/International:SAFEFOODERA_eTrace)

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